AUTHOR INDEX

Adams, E. M. – People – The Other Side of the Air Polution Problem		DAVIS, J. A., H. W. DEEM, and H. W. LOWNIE, JR Service Life of Iron Castings Can Be Affected by Their Ther-	
ADAMS, C. M. JR., D. V. RAGONE, J. R. SPRINKLE, and H. F.		mal Conductivity	22
TAYLOR - Gas Porosity in Oxygen-Free Copper Castings		DEEM, H. W., J. A. DAVIS, and H. W. LOWNIE, JR Service	
ADAMS, C. M. JR., M. C. FLEMINGS, E. E. HUCKE, and H. F.		Life of Iron Castings Can Be Affected by Their Ther-	
TAYLOR - Metal Solidification in a Flowing Stream		mal Conductivity	22
ADAMS, C. M. JR., D. V. RAGONE, and H. F. TAYLOR -Some		DUFLOT, J Cracking and Life of Ingot Molds	38
Factors Affecting Fluidity of Metals		, J	-
ADAMS, C. M. JR., D. V. RAGONE, and H. F. TAYLOR - A			
New Method for Determining the Effect of Solidifica-		EDELMAN, R., N. HEHNER, and H. McCurdy - Age-Harden-	
tion Range on Fluidity		ing Characteristics of a Cast Alloy of Copper-5.8% Ti-	
ADAMS, C. M. JR., W. D. WALTHER, and H. F. TAYLOR -		tanium	
Mechanism for Pore Formation in Solidifying Metals		EDENS, W. W Management of a Metallurgical Laboratory	
AFS COMMITTEE (6-E) - Comparison of Liquid and Air-		EKEY, D. C. and E. G. VOGEL - Ceramic-Mold Process for	
Quenched Pearlitic Malleable Irons: Part I - Duplex		Steel Castings	
Iron		EKEY, D. C. and R. L. YARD - Analysis of Factors Affecting	
AFS COMMITTEE (8-C) - Survey Report on the CO2 Process		Surface Finish of Gray Iron Castings	
AFS COMMITTEE (8-C-f) - Stickiness in Core Sand Mixtures		EKEY, D. C. and J. M. LEAMAN – Statistical Techniques for	
AFS COMMITTEE (8-F) - Use of Glass Spheres for Calibrat-		Classifying Foundry Sands	
ing Sand Testing Sieves	443	EMMETT, W. D. – Bentonite – Properties and Composition	
AFS COMMITTEE (8-H) - Influence of Sand Distribution		(Their Relation to Casting Defects) ERHART, E. E., Jr. and H. WAGERS – Incentives In A Small	
and Surface Coatings on Metal Penetration	82	Jobbing Foundry	
AHEARN, P. J., F. QUIGLEY, J. I. BLUHM and J. F. WALLACE		Jobbing Tounday	2.74
-Some Considerations on the Tensile and Transverse			
Strength of Shell Mold and Core Sands	125	FERRY, M. and MARGERIE, J. C Causes and Effects of Grain	
AHLES, R. D., C. H. WEIGHT, and R. S. ZENO - Effect of		Size in Pearlitic Gray Cast Iron	41
Titanium Deoxidation on the Mechanical Properties		FLEMINGS, M. C., C. M. ADAMS, JR., E. E. HUCKE, and H. F.	
and Microstructure of Cast Cr-Mo-V Steel		TAYLOR — Metal Solidification in a Flowing Stream	
AHLES, R. D., R. S. ZENO, and W. R. NESTLE - Effect of		FLINN, R. A Quantitative Evaluation of the Susceptibil-	
Aluminum Deoxidation on the Mechanical Properties		ity of Various Alloys to Shrinkage Defects	
and Microstructure of Cast Cr-Mo-V Steel		FLINN, R. A. and P. K. TROJAN - Pressure Tightness in	
ALEXANDER, A. P., and E. BOYWID - Experiences with Basic		85-5-5-5 Bronze Castings	
Cupola Refractories and Melting		FRAZIER, F. – Compensation Trends in Loss of Hearing	337
AMALA, R. S., J. H. SMITH, A. L. BOEGEHOLD, and R. F. THOMPSON — The General Motors Blow-Hot Press Auto-			
matic Shell Molding Machine	499	GERTSMAN, S. L. and R. C. SHNAY - Risering of Nodular	
ATTERTON, D. V. – The Carbon-Dioxide Process		Irons: Part III-The Effect of Pouring Temperature on	
ATTERION, D. V THE Carbon-Dioxide Process	1.1	Shrink Depth	271
		GOLDSPIEL, S., N. A. KAHN, and R. R. WALTIEN - Applica-	
Parana T F Developments of High Pressure Molding		tion of Radiography in the Manufacture of Bronze	
Barlow, T. E. – Developments of High Pressure Molding With CO ₂ Process Sands		Castings	149
BARRABEE, J. M. – Engineering, Cost, and Quality		GOTHERIDGE, J. E. and H. G. NEU - Fluxing and Deoxida-	
Belter, E. H., A. H. Zrimsek, and R. W. Heine - Effects of	100	tion Treatments for Copper	616
Charge Proportions, Furnace Atmosphere, Flow Rate,		GRUBE, K. R., R. M. LANGE, and J. G. KURA – Modifications	
and Melt-Down Time on Properties of Malleable Iron	72	in Vertical-Gating Principles	54
BLUHM, J. I., P. J. AHEARN, F. QUIGLEY, and J. F. WALLACE			
- Some Considerations on the Tensile and Transverse		HANEY, E. G. and M. F. HAWKES-The Nucleation of	
Strength Testing of Shell Mold and Core Sands	125	Graphite During Decomposition of Cementite	515
BOEGEHOLD, A. L., R. S. AMALA, J. H. SMITH, and R. F.		HANNON, J. W. G Aluminum Theraphy in Silicosis	
THOMSON - The General Motors Blow-Hot Press Auto-		HANSON, W. O. and E. R. LUND - You Can Reduce Noise	
matic Shell Molding Machine	422	in Your Foundry	329
BOLT, J. E Cold Process For Resin-Coated Foundry Sands		HARRIS, R. C. and K. L. HERRICK - A Tensile Bar Shell	
BOTSFORD, J. H Noise Reduction in the Manufacture of		Mold for Light Alloys	463
Marine Propellers Through The Use of Vibration		HARRIS, R. C., S. LIPSON, and H. ROSENTHAL - Tensile Prop-	
Damping	588	erties of Aluminum-Silicon-Magnesium Alloys and the	
BOYWID, E. and A. P. ALEXANDER - Experience with Basic		Effects of Sodium Modification	470
Cupola Refractories and Melting	493	HAWKES, M. F. and E. G. HANEY - The Nucleation of	
BRYCE, J. T., F. B. ROTE, and E. F. CHOJNOWSKI – Malleable	S	Graphite During Decomposition of Cementite	515
Base Spheroidal Iron	197	HEHNER, N., H. McCurdy, and R. Edelman - Age-Harden-	
BUCHMAN, E. L Casting Tolerances As Affected by Auto-	001	ing Characteristics of a Cast Alloy of Copper-5.8% Ti-	919
mation in the Machine Shop	204	Harve P. W. A. H. Zhinger, and F. H. Britten. Effects of	313
		Charge Proportions Furnace Atmosphere Flow Pate	
Comment of the Property of the Line of the		Charge Proportions, Furnace Atmosphere Flow Rate,	70
CHOJNOWSKI, E. F., F. B. ROTE, and J. T. BRYCE – Malleable	107	and Melt-Down Time on Properties of Malleable Iron	12
Base Spheroidal Iron Characteristics of Acid	197	Heine, R. W Molding Sands, Molding Methods and	300
CHRISTOPHER, C. F Hot Tearing Characteristics of Acid		Casting Dimensions Heine, R. W., E. H. King, and J. S. Schumacher – Does	330
and Basic Steel Castings Determined by High Temper- ature Testing	203	Sand Testing Give Us The Facts?	408
CLARK, A. M. – Principles of Core Blowing		HEINRICHS, W. L Hot-Blast Cupola Practice	
Colwell, D. L. and O. Tichy - Machinability of Alum-		HERRICK, K. L. and R. C. HARRIS - A Tensile Bar Shell	
inum Die Castings	236	Mold for Light Alloys	463

AUTHOR INDEX

Adams, E. M. – People – The Other Side of the Air Polution Problem		DAVIS, J. A., H. W. DEEM, and H. W. LOWNIE, JR Service Life of Iron Castings Can Be Affected by Their Ther-	
ADAMS, C. M. JR., D. V. RAGONE, J. R. SPRINKLE, and H. F.		mal Conductivity	22
TAYLOR - Gas Porosity in Oxygen-Free Copper Castings		DEEM, H. W., J. A. DAVIS, and H. W. LOWNIE, JR Service	
ADAMS, C. M. JR., M. C. FLEMINGS, E. E. HUCKE, and H. F.		Life of Iron Castings Can Be Affected by Their Ther-	
TAYLOR - Metal Solidification in a Flowing Stream		mal Conductivity	22
ADAMS, C. M. JR., D. V. RAGONE, and H. F. TAYLOR -Some		DUFLOT, J Cracking and Life of Ingot Molds	38
Factors Affecting Fluidity of Metals		, J	-
ADAMS, C. M. JR., D. V. RAGONE, and H. F. TAYLOR - A			
New Method for Determining the Effect of Solidifica-		EDELMAN, R., N. HEHNER, and H. McCurdy - Age-Harden-	
tion Range on Fluidity		ing Characteristics of a Cast Alloy of Copper-5.8% Ti-	
ADAMS, C. M. JR., W. D. WALTHER, and H. F. TAYLOR -		tanium	
Mechanism for Pore Formation in Solidifying Metals		EDENS, W. W Management of a Metallurgical Laboratory	
AFS COMMITTEE (6-E) - Comparison of Liquid and Air-		EKEY, D. C. and E. G. VOGEL - Ceramic-Mold Process for	
Quenched Pearlitic Malleable Irons: Part I - Duplex		Steel Castings	
Iron		EKEY, D. C. and R. L. YARD - Analysis of Factors Affecting	
AFS COMMITTEE (8-C) - Survey Report on the CO2 Process		Surface Finish of Gray Iron Castings	
AFS COMMITTEE (8-C-f) - Stickiness in Core Sand Mixtures		EKEY, D. C. and J. M. LEAMAN – Statistical Techniques for	
AFS COMMITTEE (8-F) - Use of Glass Spheres for Calibrat-		Classifying Foundry Sands	
ing Sand Testing Sieves	443	EMMETT, W. D. – Bentonite – Properties and Composition	
AFS COMMITTEE (8-H) - Influence of Sand Distribution		(Their Relation to Casting Defects) ERHART, E. E., Jr. and H. WAGERS – Incentives In A Small	
and Surface Coatings on Metal Penetration	82	Jobbing Foundry	
AHEARN, P. J., F. QUIGLEY, J. I. BLUHM and J. F. WALLACE		Jobbing Tounday	2.74
-Some Considerations on the Tensile and Transverse			
Strength of Shell Mold and Core Sands	125	FERRY, M. and MARGERIE, J. C Causes and Effects of Grain	
AHLES, R. D., C. H. WEIGHT, and R. S. ZENO - Effect of		Size in Pearlitic Gray Cast Iron	41
Titanium Deoxidation on the Mechanical Properties		FLEMINGS, M. C., C. M. ADAMS, JR., E. E. HUCKE, and H. F.	
and Microstructure of Cast Cr-Mo-V Steel		TAYLOR — Metal Solidification in a Flowing Stream	
AHLES, R. D., R. S. ZENO, and W. R. NESTLE - Effect of		FLINN, R. A Quantitative Evaluation of the Susceptibil-	
Aluminum Deoxidation on the Mechanical Properties		ity of Various Alloys to Shrinkage Defects	
and Microstructure of Cast Cr-Mo-V Steel		FLINN, R. A. and P. K. TROJAN - Pressure Tightness in	
ALEXANDER, A. P., and E. BOYWID - Experiences with Basic		85-5-5-5 Bronze Castings	
Cupola Refractories and Melting		FRAZIER, F. – Compensation Trends in Loss of Hearing	337
AMALA, R. S., J. H. SMITH, A. L. BOEGEHOLD, and R. F. THOMPSON — The General Motors Blow-Hot Press Auto-			
matic Shell Molding Machine	499	GERTSMAN, S. L. and R. C. SHNAY - Risering of Nodular	
ATTERTON, D. V. – The Carbon-Dioxide Process		Irons: Part III-The Effect of Pouring Temperature on	
ATTERION, D. V THE Carbon-Dioxide Process	1.1	Shrink Depth	271
		GOLDSPIEL, S., N. A. KAHN, and R. R. WALTIEN - Applica-	
Parana T F Developments of High Pressure Molding		tion of Radiography in the Manufacture of Bronze	
Barlow, T. E. – Developments of High Pressure Molding With CO ₂ Process Sands		Castings	149
BARRABEE, J. M. – Engineering, Cost, and Quality		GOTHERIDGE, J. E. and H. G. Neu - Fluxing and Deoxida-	
Belter, E. H., A. H. Zrimsek, and R. W. Heine - Effects of	100	tion Treatments for Copper	616
Charge Proportions, Furnace Atmosphere, Flow Rate,		GRUBE, K. R., R. M. LANGE, and J. G. KURA – Modifications	
and Melt-Down Time on Properties of Malleable Iron	72	in Vertical-Gating Principles	54
BLUHM, J. I., P. J. AHEARN, F. QUIGLEY, and J. F. WALLACE			
- Some Considerations on the Tensile and Transverse		HANEY, E. G. and M. F. HAWKES-The Nucleation of	
Strength Testing of Shell Mold and Core Sands	125	Graphite During Decomposition of Cementite	515
BOEGEHOLD, A. L., R. S. AMALA, J. H. SMITH, and R. F.		HANNON, J. W. G Aluminum Theraphy in Silicosis	
THOMSON - The General Motors Blow-Hot Press Auto-		HANSON, W. O. and E. R. LUND - You Can Reduce Noise	
matic Shell Molding Machine	422	in Your Foundry	329
BOLT, J. E Cold Process For Resin-Coated Foundry Sands		HARRIS, R. C. and K. L. HERRICK - A Tensile Bar Shell	
BOTSFORD, J. H Noise Reduction in the Manufacture of		Mold for Light Alloys	463
Marine Propellers Through The Use of Vibration		HARRIS, R. C., S. LIPSON, and H. ROSENTHAL - Tensile Prop-	
Damping	588	erties of Aluminum-Silicon-Magnesium Alloys and the	
BOYWID, E. and A. P. ALEXANDER - Experience with Basic		Effects of Sodium Modification	470
Cupola Refractories and Melting	493	HAWKES, M. F. and E. G. HANEY - The Nucleation of	
BRYCE, J. T., F. B. ROTE, and E. F. CHOJNOWSKI – Malleable	S	Graphite During Decomposition of Cementite	515
Base Spheroidal Iron	197	HEHNER, N., H. McCurdy, and R. Edelman - Age-Harden-	
BUCHMAN, E. L Casting Tolerances As Affected by Auto-	001	ing Characteristics of a Cast Alloy of Copper-5.8% Ti-	919
mation in the Machine Shop	204	Harve P. W. A. H. Zhinger, and F. H. Britten. Effects of	313
		Charge Proportions Furnace Atmosphere Flow Pate	
Comment of the Property of the Line of the		Charge Proportions, Furnace Atmosphere Flow Rate,	70
CHOJNOWSKI, E. F., F. B. ROTE, and J. T. BRYCE – Malleable	107	and Melt-Down Time on Properties of Malleable Iron	12
Base Spheroidal Iron Characteristics of Acid	197	Heine, R. W Molding Sands, Molding Methods and	300
CHRISTOPHER, C. F Hot Tearing Characteristics of Acid		Casting Dimensions Heine, R. W., E. H. King, and J. S. Schumacher – Does	330
and Basic Steel Castings Determined by High Temper- ature Testing	203	Sand Testing Give Us The Facts?	408
CLARK, A. M. – Principles of Core Blowing		HEINRICHS, W. L Hot-Blast Cupola Practice	
Colwell, D. L. and O. Tichy - Machinability of Alum-		HERRICK, K. L. and R. C. HARRIS - A Tensile Bar Shell	
inum Die Castings	236	Mold for Light Alloys	463

HOLDEMAN, G. E Metallography in the Magnesium Foun-	600	NAVARRO, JOSE and H. F. TAYLOR - Inorganic Binders Solve	
HUCKE, E. E., M. C. FLEMINGS, C. M. ADAMS, JR., and H. F.	098	Shell Molding Problems	
TAYLOR - Metal Solidification in a Flowing Stream	636	ZH62XA Magnesium Sand Casting Alloy	
HUNSICKER, H. Y. and R. C. LEMON – New Aluminum Permanent Mold Casting Alloys C355 and A356	255	NESTLE, W. R., R. S. ZENO, and R. D. AHLES – Effect of Aluminum Deoxidation on the Mechanical Properties and Microstructure of Cast Cr-Mo-V Steel	
Leans E N. Navel Aluminum Engine Die Costings	490	NEU, H. G. and J. E. GOTHRIDGE - Fluxing and Deoxidation	
JACOBI, E. N. – Novel Aluminum Engine Die Castings JENKINS, L. R. and C. C. LAWSON – Properties of Refractor-		Treatments for Copper	
ies Affect Air Furnace Bottom Service [UNKER, OTTO, - Recent Development of the Coreless Line	432	NIELSEN, E. H. – Melting Malleable Iron with Pulverized	
Frequency Induction Melting Furnace in European Foundries	543	Coal and Oil as Fuel	
		PASCHKIS, V Transient Heat Flow	
KAHN, N. A., S. GOLDSPIEL, and R. R. WALTIEN – Application of Radiography in the Manufacture of Bronze Cast-		PASCHKIS, V. – Temperature Drop in Pouring Ladles PEARSON, W. E. – Effects of Section Size Variations in a	565
ings		Test Casting on Properties of Some Mg-Al-Zn Alloys	376
KANE, J. M. – Equipment for Cupola-Emission Control KING, E. H., R. W. HEINE, and J. S. SCHUMACHER – Jolt	525	Peck, J. B. and A. H. RAUCH – Heat Treatment of Gray- Cast Iron	997
Test For Sand	415	PUTZ, H. and E. C. ZUPPANN - Evaluating Green Properties	
Krause, E. D. and E. A. Lange – Evaluation of Coke Quality by a Compressive Test	209	of Cereal Core Binders	267
Krishon, J. P Centrifugal Casting of Unusual Shapes in	200		
Non-Ferrous Alloys	435	QUIGLEY, F., P. J. AHEARN, J. I. BLUHN, and J. F. WALLACE	
KURA, J. G., K. R. GRUBE, and R. M. LANG – Modifications in Vertical-Gating Principles	54	- Some Considerations on the Tensile and Transverse Strength Testing of Shell Mold and Core Sands	125
LANG, R. M., K. R. GRUBE, and J. G. KURA - Modifications		RAGONE, D. V., C. M. ADAMS, JR., and H. F. TAYLOR-	
in Vertical-Gating Principles	54	Some Factors Affecting Fluidity of Metals	640
LANGE, E. A. and E. D. KRAUSE – Evaluation of Coke Quality by a Compressive Test	900	A New Method for Determining the Effect of Solidi-	
LAWSON, E. E. and L. R. JENKINS - Properties of Refractor-	400	fication Range on Fluidity	653
ies Affect Air Furnace Bottom Service	432	Cast Iron	227
LEAMAN, J. M. and D. C. EKEY — Statistical Techniques for Classifying Foundry Sands	679	RIGHTER, R. V Annealing on Five-Day Week Basis	
LEMON, R. C. and W. E. SICHA - New Aluminum Casting		ROBINSON, K. E.—Control of Make-Up Air in Industrial Plants	447
Alloy XA140 for Elevated Temperature Applications. Lemon, R. C. and H. Y. Hunsicker – New Aluminum Per-	261	ROSENTHAL, H., R. C. HARRIS, and S. LIPSON - Tensile Prop-	77/
manent Mold Casting Alloys C355 and A356	255	erties of Aluminum-Silicon-Magnesium Alloys and the	480
LEWIS, A. H. and G. J. VINGAS - Anionic or Cationic Agents	45.0	Effects of Sodium Modification	709
- A Solution to Sand Problems	433	ROTE, F. B., E. F. CHOJNOWSKI, and J. T. BRYCE - Malle-	,00
erties of Aluminum-Silicon-Magnesium Alloys and the	400	able Base Spheroidal Iron	197
Effects of Sodium ModificationLOEBRECKE, E. – Development of Hot-Blast Cupola Melting	470	Control Control Picit Tolores Posting	910
Technique in Europe	171	SANDERS, C. A Casting Finish-Tolerance-Precision SAUNDERS, W. P. and K. E. Nelson - An Evaluation of	318
LOWNIE, JR., H. W Use of Pig Iron in Iron Foundries		ZH62XA Magnesium Sand Casting Alloy	
(With Particular Attention to Specifications, Prices, Secondary Elements, and 'Heredity')	104	SCAGGS, F. M. — Core Making With CO ₂ Process SCHAUM, J. H. and R. E. Morey — Use of Glass Spheres for	333
LOWNIE, JR., H. W. and JOHN VARGA, JR Influence of		Calibrating Sand Testing Sieves	443
Temperature on Mechanical Strength of Coke LOWNIE, JR., H. W., J. A. DAVIS, and H. W. DEEM — Service	217	SCHUMACHER, J. S., R. W. HEINE, and E. H. KING - Does	400
Life of Iron Castings Can Be Affected by Their Ther-		Sand Testing Give Us The Facts?	408
mal Conductivity	223	Irons: Part III - The Effect of Pouring Temperature	
LUND, E. R. and W. O. HANSON - You Can Reduce Noise in Your Foundry	329	on Shrink Depth	271
		Alloy XA140 for Elevated Temperature Applications.	261
MARGERIE, JEAN-CLAUDE and MICHAEL FERRY - Causes and		SINNETT, A. C Basic Cost Concepts for the Small-Medium	100
Effects of Grain Size in Pearlitic Gray Cast Iron	41	Foundry SMITH, J. H., R. S. AMALA, A. L. BOEGEHOLD, and R. F.	107
MARTIN, Ross, Jr Practical Foundry Application of Statistical Quality Control	989	THOMSON - The General Motors Blow-Hot Press Auto-	
MASSARI, S. C Marketing Your Product		matic Shell Molding Machine	422
McAfee, E. J Use of Epoxy Resin as Pattern Material.	504	Gas Porosity in Oxygen-Free Copper Castings	611
McCurdy, H., N. Hehner, and R. Edelman — Age-Hardening Characteristics of a Cast Alloy of Copper-5.8% Ti-		STEIN, E. M Stress-Strain Relationship for Gray Iron	
tanium		STOCH, C. M Some Aspects of Dust Suppression in Foundries	136
MEADER, R. F Green-Sand Casting Finish			
MONDOLFO, L. F Metallography of Aluminum Alloys		TAYLOR, H. F., J. K. SPRINKLE, C. M. ADAMS, JR. and D. V.	
MONTGOMERY, A. M. – Metallography for the Foundryman –	600	RAGONE - Gas Porosity in Oxygen-Free Copper Castings	611
Good Metallographic Practice	000	TAYLOR, H. F. and Jose NAVARRO - Inorganic Binders Solve	011
Calibrating Sand Testing Sieves	443	Shell Molding Problems	625

TAYLOR, H. F., M. C. FLEMINGS, C. M. ADAMS, JR., and E. E. HUCKE — Metal Solidification in a Flowing Stream 636 TAYLOR, H. F., D. V. RAGONE, and C. M. ADAMS, JR. — Some	WALTIEN, R. R., N. A. KAHN, and S. GOLDSPIEL — Applica- tion of Radiography in the Manufacture of Bronze Castings
Factors Affecting Fluidity of Metals 640	WALTHER, D. W., C. M. ADAMS JR., and H. F. TAYLOR-
TAYLOR, H. F., D. V. RAGONE, and C. M. ADAMS, JR.—A New Method for Determining the Effect of Solidifica- tion Range on Fluidity	Mechanism for Pore Formation in Solidifying Metals 650 WEIGHT, C. H., R. D. Ahles, and R. S. Zeno – Effect of Titanium Deoxidation on the Mechanical Properties and Microstructure of Cast Cr-Mo-V Steel
Shell Molding Machine	WYMAN, C. FI Gas Flushing of Molten Steel 02
Die Castings	
TONKS, W. G.—Sub-surface Blowholes in Gray Irons and Their Association with Manganese Sulphide Segrega- tion	YARD, R. L. and D. C. EKEY – Analysis of Factors Affecting Surface Finish of Gray Iron Castings
TROJAN, R. K. and R. A. FLINN – Pressure Tightness in 85-5-5-5 Bronze Castings	Industry 668
VARGA, JOHN, JR. and H. W. LOWNIE, JR Influence of Temperature on Mechanical Strength of Coke 217	ZENO, R. S., R. D. AHLES, and C. H. WEIGHT – Effect of Titanium Deoxidation on the Mechanical Properties
VINGAS, G. J. and A. H. LEWIS - Anionic or Cationic Agents	and Microstructure of Cast Cr-Mo-V Steel 591
- A Solution to Sand Problems	ZENO, R. S., R. D. AHLES, and W. R. NESTLE-Effect of
Vocei. E. G. and D. C. Ekey Ceramic-Mold Process for Steel Castings	Aluminum Deoxidation on the Mechanical Properties and Microstructure of Cast Cr-Mo-V Steel 600
	ZRIMSEK, A. H., E. H. BELTER and R. W. HEINE - Effects
WAGERS, H. and E. E. ERHART, JR Incentives in a Small	of Charge Proportions, Furnace Atmosphere Flow Rate,
Jobbing Foundry	and Melt-Down Time on Properties of Malleable
WALLACE, J. F., P. J. AHEARN, F. QUIGLEY, and J. I. BLUHM	Iron 72
- Some Considerations on the Tensile and Transverse	ZUPPANN, E. C. and H. PUTZ - Evaluating Green Proper-
Strength Testing of Shell Mold and Core Sands 125	ties of Cereal Core Binders 267

SUBJECT INDEX

^		•	
AFS grain fineness number	679	Basic	
AFS Research and Committee Reports54, 62, 72, 82, 9		cost concepts for the small-medium foundry	16
100, 344, 33	39, 443	cupola refractories	493
Acid steel castings,		slag cupola practice	532
Hot tearing characteristics of	293	steel castings, Hot tearing characteristics	29
Accounting, Cost	167	Bells,	57
Advertising your product	11	Church, Cores for	614
Age-hardening characteristics of a cast alloy of copper-	919	Bentone, defined Bentonite, properties and composition	482
5.8 per cent titanium	313	sand mixtures	353
Air	499	Bessemer pig iron	
furnace bottom service, effect of refractories on	432 311	Bibliography,	10.
pollutionpollution control	525	copper-titanium alloys	316
quenched pearlitic malleable irons	91	cupola	195
supply in industrial plants	447	dust suppression	140
Aircraft engines, Aluminum alloy for	263	fluidity	636
Alloy,		fluidity of metals	649
aluminum	61, 693	gray iron castings	676
magnesium	364	metallography	718
Alloys,		nodular iron, Risering of	281
Aluminum	255	pearlitic malleable iron	97
Aluminum-Silicon-Magnesium, Tensile		sand testing	687
properties of	470	Binders, inorganic, for shell molding	625
aluminum, Metallography of	693	Bismuth	
magnesium-aluminum-zinc, Test castings of	376	in gray iron castings	115
Aluminum		in malleable iron	121
alloys, Metallography of	3, 701	Blast furnaces	104
casting alloy	261	Blow-hot press shell molding machine	422
castings, CO ₂ process in making	98	Blowholes in gray irons	551
content of molten steel	70	Blowing of cores	577
deoxidation, effect on mechanical properties and		Boron	***
microstructure of cast Cr-Mo-V steel	600	in gray iron castings	115
as deoxidizer in steel casting	710	influence on tensile properties of malleable base	007
die castings, Machinability of	236	spheroidal iron	207
engine die castings	489	in malleable iron	121 98
in gray iron castings	115	Brass and bronze castings, made by CO ₂ process	
magnesium alloy casting	56	Brick, Refractory, for air furnace bottom service	432
in malleable iron	121	Bronze,	577
melting	545	casting, Ancient	149
in nodular iron	118 255	castings, Pressure tightness in	339
permanent mold casting alloys C355 and A356	463	custings, i resourc rightness in	000
shell molding	470		
therapy in silicosis	509	C	
zinc alloys, magnesium, Metallography of	701	Cadmium	
zinc, magnesium-alloys, test casting	376	in gray iron castings	115
American Iron and Steel Institute		in nodular iron	119
pig iron classifications	106	Calcium	
American Society for Testing Materials		boride additions to copper	619
pig iron classifications	106	in nodular iron	119
An evaluation of 2H62XA magnesium sand casting alloy	364	Calibrating sand testing sieves	443
Analysis of factors affecting surface finish of gray iron		Carbon	
castings	671	arc process	430
Anionic or cationic agent-a solution to sand problems	453	content of pig iron	108
Annealability of malleable iron	78	dioxide process	14, 333
Annealing,		dioxide process sand for high pressure molding	336
effect on malleable iron	713	dioxide process survey	98
effect on structure of alloy steels	711	in malleable iron	119
Antimony	110	pickup in cupolas	538
in gray iron castings	115	solubility in copper	611
in nodular iron	118	Carbonates,	630
Application of radiography in the manufacture of bronze	140	effect on surface quality of steel castings	1930
castings	149	Cast iron,	
Arsenic	115	coreless line frequency induction furnace melting	546
in gray iron castings	121	Metallography of	709
in malleable ironin nodular iron	119	stove, Oldest known	577
Automatic-controlled hot-blast cupola	179	Castability of magnesium alloy	364
Automatic shell molding	422	Casting	201
Automation		characteristics of aluminum alloy	263
in the machine shop	264	dimensions	398

Casting (Cont.)		Core	00
finish, Green sand	284	binders, cereal, Green properties of	26
finish — tolerance — precision	318	blowing	57 57
tolerances as affected by automation in the machine	264		98, 33
shopweight, quality control	233	oil	34
Castings,	400	sand mixtures, Stickiness in	34
gray iron, Factors affecting surface finish	671	sands, Tensile and transverse strength testing of	12
Cationic agents	453	wash	8
Causes and effects of grain size in pearlitic gray cast iron	41	Coreless line frequency induction melting furnace in	
Cementite decomposition, nucleation of graphite during.	515	European foundries	54
Centrifugal casting of unusual shapes in non-ferrous	400	Cores	
alloys	435	by carbon dioxide process	1
Ceramic-mold process for steel castings	439	effect on turbulence within mold	5
Cereal core binders, green properties of,	267	transverse test at elevated temperatures	35
as additives.	287	Corn flour sand mixtures	35
Cerium	401	Cost	
in gray iron castings	115	concepts for the small-medium foundry	16
in malleable iron	121	control, Foundry	13
in nodular iron	118	of castings vs. fabricated products	45
Charcoal pig iron	109	reduction by CO ₂ process	33
Charge proportions, effect on malleable iron	72	Costs	00
Chemical	can	of steel and gray iron charges	49
additives, effect on surface quality of steel castings.	630 43		38
composition of gray cast ironcomposition of steel	295	Cracking and life of ingot molds	
Chills	433	Crystalline graphite-base core wash	8
in bronze castings	342	Cupola	10
Chromium		bibliography	19
in gray iron castings	116	emission control equipment	21 52
in malleable iron	120	hot blast, History	17
molybdenum-vanadium steel, Effect of aluminum de-		melting technique, Hot-blast	17
oxidation on	600	practice, Hot blast	53
molybdenum-vanadium steel, Effect of titanium de-	r01	refractories, Basic	49
oxidation on	591	Cylinder casting	66
in nodular iron	119 525 -		
Classification of foundry sands, Statistical techniques for.	679	D	
Clay	015		
bentonite	482	Defect, Shrinkage	66
effect on CO ₂ process cores	337	Defects, Casting	82, 55
Cleaning		in brass and bronze castings	15
of castings		in gray iron castings, surface	67
room noise	588	in magnesium castings	36
reduction in	329	steel castings	59
Coal	00	surface, on steel castings	62
dust addition to sandfor melting malleable iron	22 242	Deformation	90
Coatings, surface, influence on metal penetration	82	of sand mixtures	320
Cobalt in gray iron castings	116	Density	804
Coke		of green sand	39
in basic cupola	498	Deoxidation,	
hot blast cupola use	, 185	aluminum, effect on the mechanical properties and	cov
mechanical strength	217	microstructure of cast Cr-Mo-V Steel	600
quality, evaluation by compression test	209	treatments for copper	610
Cold process for resin-coated foundry sands	247	Deoxidizers,	66
Collapsibility	0.4	effect on impact value	. 00
of carbon dioxide hardened cores	24	Design of castings	
of cores	99	Desulphurization in an acid-lined cupola	53
Comparison of liquid – and air quenched pearlitic malle-	- 01	Determining effect of solidification range on fluidity	653
able irons	91	Development	
Compensation trends in loss of hearing	357	of high pressure molding with CO2 process sands	336
Compressive test, Evaluation of coke quality by	209	of hot-blast cupola melting technique in Europe	17
Conductivity of copper	616	Die castings,	
Control of make-up air in industrial plants	447	aluminum	23
Cooling		engine, aluminum	489
of gray cast iron	41	Does sand testing give us the facts?	400
rate studies on nodular iron	277	Dry sand molds,	
Copper		nodular iron poured in	27
in aluminum die castings	236	Ductility of steel castings	30
castings, Gas porosity in	611	Duplexing, pearlitic malleable iron	9
effect on tensile properties of aluminum alloys	256		3.
fluxing and deoxidation treatments	616	Control, Cupola	52
in gray iron castings	116	separation of cupola stack gases	17
in malleable iron	120	suppression in foundries	130
in nodular irontitanium alloy, Age-hardening characteristics	119 313	Drying of sand molds	453

		Green	
Th 1 (s	014	properties of cereal core binders, Evaluating	267
Elasticity of gray iron	214	sand casting finish	284
Elevated temperature applications, Aluminum casting	001	sand molding	398
alloy for Engine die castings, aluminum	261 489	sand molds, Nodular iron poured in	274
Engineering, cost and quality	459	sand vs. ceramic-mold process	442
Epoxy resin as pattern material		Grinding	
Equipment	1, 000	machines	139
for cupola-emission control	525	of magnesium alloys	698
new, Human factor in	147	of samples for metallographic inspection	689
Etching of samples for metallographic inspection	691		
Europe, development of hot-blast cupola melting tech-		Н	
nique in	171	Hardening, Age of copper-titanium alloy	313
European foundries, coreless line frequency induction		Hardness of gray iron	227
melting furnace in	543	Health hazard, Dust as	136
Evaluating green properties of cereal core binders	267	Hearing loss, Compensation trends in	357
Evaluation of coke quality by a compressive test	209	Heat	100
Evaporation of water from molds	453	flow	100
Exhaust systems for grinders	140	loss of metal in pouring ladles	565 100
Experiences with basic cupola refractories and melting	493	transfertreatment	100
		of copper-titanium alloy	314
F		of gray-cast iron	227
Facting additives	286	effect on steel	66
Ferrous metallographic practice	709	of malleable-base spheroidal iron	208
Finish		Heredity in pig iron	122
casting	318	High	
Green-sand	284	pressure molding with CO2 process sands	336
Flowability of molding sand	3, 326	temperature testing of steel castings	293
Fluidity	0.10	Hot	
of metals, Some factors affecting	640	blast cupola melting technique	171
new method for determining effect of solidification	cro	blast cupola practice	532
range on	653	tearing characteristics of acid and basic steel castings	-
Fluxing and deoxidation treatments for copper	616	determined by high temperature testing	293
Forgings vs. castings	3	Hoyt, Charles Edgar, Memorial Lecture—Marketing your	1
Foundry		Product	147
cost concepts	167	Hypereutectic cast iron	272
metallography	688	Hypoeutectic cast iron	272
pig iron	109	Trypocutcute task from	
sands, Statistical techniques for classifying	679		
Fuel for melting malleable iron	242	Impact	
Furnace		properties of steel castings	296
atmosphere flow rate, effect on malleable iron	72	strength of steel	64
bottom service, Effect of refractories on	432	Incentives in a small jobbing foundry	133
Induction	543	Inclusion distribution in steel castings63, 595, 604	
		Induction melting furnace, Coreless line	543
G		Industrial management	147
Gas		Industrial plants, Air control in	447
content of copper melts	617	Influence of, sand distribution and surface coatings on metal	
flow rates, malleable iron	75	penetration	82
flushing of molten steel	62	temperature on mechanical strength of coke	217
porosity in oxygen-free copper castings	611	Ingot molds, Cracking of	387
rate of evolution	632	Inorganic binders solve shell molding problems	625
effect on shell molded castings	626	Inspection of castings	266
and risering of bronze castings	153	Investment casting vs. ceramic-mold process	442
principles, vertical, Modifications in	54	Iron	
General Motors blow-hot press automatic shell molding		in aluminum die castings	236
machine	422	castings, Service life of	223
Glass spheres for calibrating sand testing Sieves	443	effect on ductility of aluminum alloys	257
Grain		foundries, Use of pig iron in	104
distribution of sand	284	heat loss from pouring ladles	565
size in pearlitic gray cast iron	41	nucleation of graphite during cementite decompo-	FIR
structure of castings	636	sition	517
Graphite	***	J	
flake distribution in cast iron	715		188
	515	Jobbing foundry, small, Incentives in	133
structure of malleable base spheroidal iron Gray cast iron	197	Jolt test for sand	415
	227		
pearlitic, Grain size in	41	Laboratory management	719
Gray Iron		Ladles, pouring, Temperature drop in	565
castings 7,	114	Lanthanum in malleable iron	121
by CO ₂ process	98	Lead	
	671	in gray iron castings	115
	499	in malleable iron	121
	214	in nodular iron	118
Gray Irons, Blowholes in	551	tin alloys, Fluidity of	653

Leakage of bronze castings	339	Metallographic	
Light alloys, Tensile bar shell mold for	463	examination, preparation of metals for	69
Line frequency induction furnace, Coreless	543	examination of steel castings	2, 70
Liquid-quenched pearlitic malleable irons	91	laboratory, Procedure in	72
Lithium addition to copper	619	practice, Ferrous 688	3, 70
Loss of hearing, Compensation trends in	357	study of steel	30
Low-carbon steel castings, Shell molding of	625	Metallography	
Lubrication of dies	237	of aluminum alloys	69
Eudification of dies	431	for the foundryman	68
		in the magnesium foundry	69
M			03
		Metallurgical	77.3
Machinability		laboratory, Management of	71
of aluminum die castings	236	reactions in the hot-blast cupola	53
of gray iron	717	Mexican graphite — base core wash	8
of malleable base spheroidal iron	203	Modifications in vertical-gating principles	5
Machine shop, automation in	264	Modulus of elasticity of malleable base spheroidal iron.	20
Magnesium		Modulus of rupture of molded sand mixtures	35
age-hardening characteristics on aluminum-silicon-		Moisture in sand molding	32
magnesium alloys	474	Mold	
alloy castings		designs for light alloys	46
alloys, aluminum-silicon-, Tensile properties of	470	hardness testing	40
		hardness vs. finish	28
aluminum-alloy casting	56	surfaces	8
aluminum alloys, Metallography of	701	Molded sand mixtures, Transverse test for	35
in aluminum die castings	236		33
aluminum-zinc alloys, Metallography of	701	Molding,	33
aluminum-zinc alloys, Test casting of	376	high pressure, with CO ₂ process sand	
effect on tensile properties of aluminum alloys		machines	
melting	546	shell	42
metallography of	698	methods	39
in nodular iron	118	sand, for CO ₂ Process	9
sand casting alloy	364	tests	41.
thorium-zinc-zirconium alloy, Metallography of	706	sands, molding methods and casting dimensions	39
Malleable		Molds, ingot, Cracking of	38
base spheroidal iron	197	Molybdenum	
iron	13,	in gray iron castings	110
	98	in malleable iron	120
by CO ₂ process		in nodular iron	119
castings	3	Vanadium steel, chromium	59
effects of charge proportions, furnace atmosphere		effect of aluminum deoxidation on	60
flow rate, and melt-down time on properties		enect of aluminum deoxidation on	001
of	72		
Melting with pulverized coal and oil	242	N	
Metallography of	709	Nickel	
Pearlitic	91	in gray iron castings	110
		in malleable iron	12
pig iron	109, 119		
pig iron	167		
Management, Cost	167	in nodular iron	11
Management, Cost Foundry	167 133, 147	in nodular iron	11:
Management, Cost Foundry of a Metallurgical Laboratory	167	in nodular iron	11: 6: 49:
Management, Cost Foundry of a Metallurgical Laboratory Manganese	167 133, 147 719	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings	11: 6: 49:
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding.	167 133, 147 719 625	in nodular iron Nitrogen, effect on impact value of steel Nodular iron castings shell molded	11: 6: 49: 11:
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding in aluminum die castings	167 133, 147 719 625 236	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of	11: 6: 49: 11: 27:
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding in aluminum die castings in malleable iron	167 133, 147 719 625 236 120	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron	115 6495 118 271 515
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron	167 133, 147 719 625 236 120 112	in nodular iron. Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction	11: 6: 49: 11: 27: 51:
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons.	167 133, 147 719 625 236 120 112 551	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron	115 64 493 118 27
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding in aluminum die castings in malleable iron in pig iron sulphide segregation in gray irons Marine propeller manufacture	167 133, 147 719 625 236 120 112 551 588	in nodular iron. Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction	119 64 493 118 271 513 329 588
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding in aluminum die castings in malleable iron in pig iron sulphide segregation in gray irons Marine propeller manufacture Marketing your product	167 133, 147 719 625 236 120 112 551	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the	119 6493 118 27 513 329
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of	167 133, 147 719 625 236 120 112 551 588 1	in nodular iron Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping.	119 64 493 118 271 513 329 588
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of	167 133, 147 719 625 236 120 112 551 588	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Non-Ferrous	11: 6- 49: 11: 27: 51: 32: 58: 14:
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on	167 133, 147 719 625 236 120 112 551 588 1	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings	115 6- 495 118 271 515 325 588 149 435
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Mechanism for pore formation in solidifying metals	167 133, 147 719 625 236 120 112 551 588 1 600 658	in nodular iron Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting	111 6 49 111 27 511 32 58 14 43 54
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Mechanism for pore formation in solidifying metals. Melting aluminum alloys.	167 719 625 236 120 112 551 588 1 600 658 465	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Non-Ferrous castings metals, melting Novel aluminum engine die castings.	115 6493 118 271 513 325 588 145
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Mechanism for pore formation in solidifying metals	167 133, 147 719 625 236 120 112 551 588 1 600 658 465	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of. Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce-	111 64 493 118 277 513 325 588 149 438 543 489
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding in aluminum die castings. in malleable iron in pig iron sulphide segregation in gray irons Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals Melting aluminum alloys. Metallographic study of steel.	167 719 625 236 120 112 551 588 1 600 658 465 67, 709	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Non-Ferrous castings metals, melting Novel aluminum engine die castings.	119 6-493 118 277 518 329 588 149 438 543
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding in aluminum die castings in malleable iron in pig iron sulphide segregation in gray irons Marine propeller manufacture. Marketing your product Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals Melting aluminum alloys Metallographic study of steel Metals, Fluidity of	167 719 625 236 120 112 551 588 1 600 658 465 67, 709 640	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite	111 64 493 118 277 513 325 588 149 438 543 489
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding in aluminum die castings. in malleable iron in pig iron sulphide segregation in gray irons Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals Melting aluminum alloys. Metallographic study of steel.	167 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of. Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce-	111 64 493 118 277 513 325 588 149 438 543 489
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding in aluminum die castings in malleable iron in pig iron sulphide segregation in gray irons Marine propeller manufacture. Marketing your product Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals Melting aluminum alloys Metallographic study of steel Metals, Fluidity of	167 719 625 236 120 112 551 588 1 600 658 465 67, 709 640	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite	119 6493 118 277 519 529 588 149 438 543 489 519
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding in aluminum die castings in malleable iron in pig iron sulphide segregation in gray irons Marine propeller manufacture Marketing your product Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Mechanism for pore formation in solidifying metals Melting aluminum alloys Metallographic study of steel Metals, Fluidity of Mechanical strength of coke, Influence of temperature on Mechanization of machine shop	167 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264	in nodular iron Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron.	119 6493 118 1277 519 329 588 149 438 543 489 511
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron.	167 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217	in nodular iron Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron.	119 6493 118 277 519 529 588 149 438 543 489 519
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting	167 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen	119 6499 118 277 519 529 588 149 438 543 489 511
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola.	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings.	119 6499 118 277 518 529 588 149 438 543 489 511 242 78
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Mechanism for pore formation in solidifying metals Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melting in the basic cupola. in hot-blast cupola.	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen	119 6499 118 277 519 529 588 149 438 543 489 511
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola. in hot-blast cupola. malleable iron	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings.	119 6499 118 277 518 529 588 149 438 543 489 511 242 78
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Mechanism for pore formation in solidifying metals Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melting in the basic cupola. in hot-blast cupola.	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72 242	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings.	119 6499 118 277 518 529 588 149 438 543 489 511 242 78
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola. in hot-blast cupola. malleable iron	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72	in nodular iron Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of cementite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings. free copper castings, Gas porosity in.	119 6499 118 277 518 529 588 149 438 543 489 511 242 78
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola. in hot-blast cupola. malleable iron with pulverized coal and oil as fuel.	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72 242	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron Oxidation losses of malleable iron Oxygen determinations of steel castings. free copper castings, Gas porosity in.	119 6493 118 277 518 329 588 149 438 543 489 511 242 78 611 430
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola. in hot-blast cupola malleable iron with pulverized coal and oil as fuel. practice, quality control. technique, Cupola	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72 242 233	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings. free copper castings, Gas porosity in. P Pad washing with carbon arc process. Parting compounds	119 6493 118 271 519 329 588 149 438 543 488 511 244 78
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melting in the basic cupola. in hot-blast cupola malleable iron with pulverized coal and oil as fuel practice, quality control technique, Cupola	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72 242 233	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings. free copper castings, Gas porosity in.	119 6493 118 127 519 588 149 438 543 489 511 243 78 611 430 322
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Methanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola. in hot-blast cupola. in hot-blast cupola. malleable iron with pulverized coal and oil as fuel. practice, quality control. technique, Cupola Metal penetration, Influence of sand distribution and sur-	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72 242 233 171	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings. free copper castings, Gas porosity in. P Pad washing with carbon arc process Parting compounds Pattern finish	119 6493 118 127 1511 329 588 149 438 543 489 511 436 322 287 151 151 151 151 151 151 151 151 151 15
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola in hot-blast cupola in hot-blast cupola malleable iron with pulverized coal and oil as fuel practice, quality control technique, Cupola Metal penetration, Influence of sand distribution and sur- fact coatings on.	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72 242 233 171	in nodular iron Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of cementite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings. free copper castings, Gas porosity in. P Pad washing with carbon arc process. Parting compounds Pattern finish making, New developments for industry.	119 6499 118 118 119 118 118 118 118 118 118 1
Management, Cost Foundry of a Metallurgical Laboratory. Manganese Dioxide as binder for shell molding. in aluminum die castings. in malleable iron. in pig iron. sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on. Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola. in hot-blast cupola. malleable iron with pulverized coal and oil as fuel. practice, quality control. technique, Cupola Metal penetration, Influence of sand distribution and surfact coatings on. pressure, effect on casting finish.	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72 242 233 171	in nodular iron Nitrogen, effect on impact value of steel. Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Nondestructive testing Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of ce- mentite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings. free copper castings, Gas porosity in. P Pad washing with carbon arc process. Parting compounds Pattern finish making, New developments for industry. material, Epoxy resin as.	111 6 499 111 5 11 5 11 5 11 5 11 5 11 5 11 5
Management, Cost Foundry of a Metallurgical Laboratory Manganese Dioxide as binder for shell molding in aluminum die castings. in malleable iron. in pig iron sulphide segregation in gray irons. Marine propeller manufacture. Marketing your product. Mechanical properties of cast Cr-Mo-V steel, Effect of aluminum deoxidation on Mechanism for pore formation in solidifying metals. Melting aluminum alloys. Metallographic study of steel. Metals, Fluidity of. Mechanical strength of coke, Influence of temperature on Mechanization of machine shop. Melt-down time, effect on malleable iron. Melting in the basic cupola in hot-blast cupola in hot-blast cupola malleable iron with pulverized coal and oil as fuel practice, quality control technique, Cupola Metal penetration, Influence of sand distribution and sur- fact coatings on.	167 133, 147 719 625 236 120 112 551 588 1 600 658 465 67, 709 640 217 264 72 493 532 72 242 233 171	in nodular iron Nitrogen, effect on impact value of steel Nodular iron castings shell molded Nodular irons, Risering of Nodules in white cast iron Noise reduction in the manufacture of marine propellers through the use of vibration damping. Non-Ferrous castings metals, melting Novel aluminum engine die castings. Nucleation of graphite during decomposition of cementite O Oil for melting malleable iron. Oxidation losses of malleable iron. Oxygen determinations of steel castings. free copper castings, Gas porosity in. P Pad washing with carbon arc process. Parting compounds Pattern finish making, New developments for industry.	11: 6 49: 11: 5 51: 52: 58: 14: 43: 54: 51: 51: 59: 61: 43: 52: 28: 60: 60: 60: 60: 60: 60: 60: 60: 60: 60

Pearlitic		Sand (Cont.)	
gray cast iron, Grain size in	41	foundry, Statistical techniques for classifying	679
malleable irons, comparison of liquid-and		grain size and surface finish	284
air-quenched	91	handling	134
People – The other side of the air pollution problem	311	jolt test for	415
Permanent mold castings	255	mixtures,	344
pH of molding sand	485	molded, transverse test	355
Phenolformaldehyde resin as binder for shell molds	625	molding	398
Phenolic resins as pattern material		for CO ₂ process	99
Phosphorus	-,	problems, anionic or cationic agents	453
additions to copper	619	resin coated	247
effect on steel	309	steel molding	482
in malleable iron	120	testing	408
in pig iron	112	sieves, Glass spheres for calibrating	443
Photomicrograph of gray cast iron45, 76		Schuermann furnace	534
Photomicrography 60	38-721	Sea coal as an additive	286
Pig iron, Use in iron foundries	104	Selenium	101
Pinholing in steel castings	591	in malleable iron	121
Pitch, as an additive to sand 2		in nodular iron	119
Plastic patterns 50		Service life of iron castings can be affected by their ther-	223
Plate casting	661	mal conductivity	Lake
Polishing samples for metallographic inspection	689 668	mold	
Polyester plastics for patternmaking Polytetrafluorethylene in molten steel	64	sands, tensile and transverse strength testing of.	125
Pore formation in solidifying metals, Mechanism for	658	tensile bar for light alloys	463
Porosity	000	molding	
in copper castings	611	Inorganic binders for	625
of die castings	237	machine	422
Pouring		of nodular iron	5
ladles, Temperature drop in	565	sand	247
temperature, effect on shell molded castings	626	vs. ceramic mold process	442
effect on shrink depth	271	molds, Procedure for making	625
Practical foundry application of statistical quality con-		Shooting of cores	-577
trol	232	Shot peened cast iron	517
Precision casting	315	Shrink depth of nodular irons	271
with CO ₂ process sand	336	Shrinkage defects in alloys	665
Pressure tightness in 85-5-5-5 bronze castings	339	Sieves, sand testing, Calibrating of	443
Price of pig iron	110	Silica	
Principles of core blowing	577	as an oxygen source in copper castings	613
Propeller manufacture, Noise reduction in	588 432	base core wash	82
Properties of refractories affect air furnace bottom service Public relations	311	flour, sand mixtures	353
rubiic iciations	311	Silicon	
0		in aluminum die castings	236
Quality		effect on tensile properties of aluminum alloy	256
of castings	459	influence on tensile properties of malleable base	207
control	461	spheroidal ironin malleable iron	120
statistical	232	magnesium alloys, aluminum-, Tensile Properties of.	470
Quantitative evaluation of the susceptibility of various		in pig iron	112
alloys to shrinkage defects	665	• •	509
		Silicosis, Aluminum therapy for	
R		Silvery pig iron	109
Radiographic technique	150	Slag,	400
Radiography, application in manufacture of bronze cast-	- 10	Basic	497
ings	149	formation on metal surface	560
Recent development of the coreless line frequency in-	~ 4.5	Slope casting	376
duction melting furnace in European foundries	543	Smokes and fumes from cupolas	525
Refractories	400	Snotters	322
basic cupola	493	Sodium	
effect on air furnace bottom service	432 548	carbonate in sand	486
Refractory materials for coreless furnaces	247	modification, effect on tensile strength of aluminum-	
Resin, Epoxy, as pattern material	504	silicon-magnesium alloys	470
Resins for patternmaking	668	silicate binder for CO2	336
Rice hulls as riser insulation	271	Solidification	
Risering, effect on shell-mold castings	626	characteristics of nodular iron castings	279
Risering of nodular irons	271	of metals	640
in a second contract of the second contract o		in a flowing stream	636
. S		pore formation in	658
Sale of castings	10	range, determining effect on fluidity	653
Sand	318	Some aspects of dust suppression in foundries	136
CO ₂ process, High pressure molding with	336	Some considerations on the tensile and transverse strength	
castings, Surface finish of28		testing of shell mold and core sands	125
control			640
core and shell mold	125	Some factors affecting fluidity of metals	010
distribution, influence on metal penetration	82	Some observations on the transverse test at elevated tem-	959
effect on surface quality of steel castings	632	peratures for molded sand mixtures	353
fineness, effect on casting finish	671	Specifications for pig iron	106

graphite cast iron, coreless line frequency furnace		effect on tensile strength of magnesium alloys	371
melting of	548	zinc-zirconium alloys, magnesium-, Metallography of	706
Iron, malleable base	197	Tin	700
Statistical	101	alloys, lead - Fluidity of	653
quality control, Practical foundry application of	232	in gray iron castings	116
techniques for classifying foundry sands	679	in malleable iron	121
Steel	0,0	in nodular iron	119
castings		Titanium	110
by CO ₂ process	98	copper-alloy, age-hardening characteristics	313
ceramic-mold process for	439	Deoxidation, effect on mechanical properties and	313
high alloy	5	microstructure of cast Cr-Mo-V steel	591
	293	determinations of steel castings	592
hot-tearing characteristics	625		116
low-carbon, shell molding of	709	in gray iron castings	
metallography of		in malleable iron	121
Cr-Mo-V	591 600	in nodular iron	118
effect of aluminum deoxidation on		O .	318 521
coreless line frequency furnace for melting	549	Torsion studies of white cast fron Transient heat flow	100
Steel	400		
cost	499	Transverse strength testing of shell mold and core sands	125
foundry sands	453	Transverse test at elevated temperatures for molded sand	959
gas flushing of	62	mixtures	353
heat loss in pouring ladles	565	Tungsten	110
making practice	293	in gray iron castings	116
molding sand	482	in malleable iron	121
Stickiness in core sand mixtures	344		
Stove, Oldest known cast iron	577	U	
Strength		Use of epoxy resin as pattern material	504
of carbon dioxide hardened sand	19	Use of glass spheres for calibrating sand testing sieves	443
of gray iron	214	Use of Pig iron in iron foundries	104
Stress-strain relationship for gray iron	214		
Sub-surface blowholes in gray irons and their association		V	
with manganese sulphide segregation	551	¥	
Sulphur		Vanadium	
content, effect on Cr-Mo-V steel	601	in gray iron castings	116
content of iron from hot-blast cupola	175	in malleable iron	121
determinations of steel castings	592	steel, chromium-molybdenum	591
influence on graphite structure	206	effect of aluminum deoxidation on	600
in malleable iron	120	Ventilation	
in pig iron	112	in foundries	138
Surface		in industrial plants	447
active agents	455	Vertical-gating principles, Modifications in	54
drying of steel molding sands	454	Vibration damping	588
finish of gray iron castings, Factors affecting	671		
Survey of the CO ₂ process	98	W	
		Water	
		cooled hot-blast cupolas	182
T		as an oxygen source in copper castings	614
Tellurium		Weldments	3
in gray iron castings	115	Wood flour as an additive	287
in malleable iron	121	wood hour as an additive	401
in nodular iron	119		
Temperature	***	X	
for comfort of personnel	447	X-ray inspection of bronze castings	149
drop in pouring ladles	565		
influence on mechanical strength of coke	217	V	
of molten metal vs. casting finish	286		200
at pouring, of gray cast iron	46	You can reduce noise in your foundry	329
Tensile	40		
bar shell mold for light alloys	463	Z	*
Properties of aluminum alloy			
	0, 202	Zinc Matallaces has a	701
Properties of aluminum-silicon-magnesium alloys	470	alloys, magnesium-aluminum-, Metallography of	701
and the effects of sodium modification	470	in aluminum die castings	236
Properties of magnesium-aluminum-zinc alloys	378	effect on magnesium alloy	364
Properties of steel castings	592	in gray iron castings	116
strength of magnesium sand casting alloy	368	magnesium-aluminum-alloys, Test castings of	376
of malleable iron	77	in malleable iron	121
testing of shell mold and core sands	125	in nodular iron	119
Test castings of magnesium-aluminum zinc alloys	376	zirconium alloy, magnesium-thorium, Metallography	Mod
Testing of steel castings	294	of	706
Thermal		Zirconium	
conductivity	100	alloy, magnesium-thorium-zinc, Metallography of	706
of iron castings	223	in gray iron castings	116
properties of carbon dioxide hardened sand	22	in malleable iron	121

